

David EB
1/23/60
File: Air-Fed
Incinerators
JK

January 18, 1961

Dear Sir:

(AIR FED INCINERATOR)

The magnetic starting switches furnished with the four Model 1 units were equipped with holding coils for 220-volt, 60-cycle-only current. Replacement holding coils for 50-cycle current are not available locally; estimated delivery is 3 weeks. Therefore, we are sending you a different style of starter, which was immediately available, for use with 220-volt, 50-cycle current. Two N-39 heater elements are installed in this starter. It has a separate push-button switch which, if you wish, can be installed remote from the starter; but, we have attached it to the starter box. We suggest that you mount this starter on a vertical wall, with the cover latch at the bottom. The wiring diagram is on the inside of the cover of the box. In addition, we have attached sample lead wires which should be removed when the 3-wire cable is actually installed; these are identified by small tags.

Three holding coils have been ordered (delivery in 3 weeks) for use by you in converting the other three original starters from 60-cycle to 50-cycle-current operation.

We are also sending a few small items which you may need in connecting the electrical circuit, as follows:

- (1) 15 feet of 12-gage, 3-conductor flexible electrical cable for use between the outlet and the

DOC 33	REV DATE 2 July 80	BY 057447	008632
ORIG COMP 056	OPI 56	TYPE 01	
ORIG CLASS 14	PAGES 11	REV CLASS	
JUST	NEXT REV	AUTH: MR TU-M	

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starter, and between the starter and the motor.

Two 1/2-inch pipe-size fiber bushings and lock nuts which insulate the cable from the starter box were installed in the box.

- (2) One 3-prong plug for use at the outlet end of the cable. Alternately, you may want to wire this end directly into a junction box at the site.
- (3) One 3/4-inch close pipe nipple, two 3/4-inch conduit lock nuts, and one 3/4-in. plastic bushing for the conduit box of the electric motor.
- (4) 12 wire terminals (squeeze-on type) and 6 10-32 x 3/8-inch machine screws for clamping the paired terminals in the conduit box of the motor.
- (5) One roll of electrical tape for insulating the terminals in the motor-conduit box.

A wiring diagram for use in connecting the electric motor is usually printed on the nameplate or inside of the conduit box of the motor. After removing the cover of the motor conduit box, you should find nine wire pig-tail leads which are identified by number with metal clips. Electrical connections at the motor, for either delta or Y internal motor wiring, should be made the same regardless of whether the 3-phase electrical system at the site is a delta or Y circuit. These connections should be

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January 18, 1961

made according to the wiring diagram shown on the particular motor. The wiring diagram will be the same as either one or the other of the two diagrams (delta or Y internal motor wiring) shown on the attached copy of GE Handbook 310, page 104, which is also shown enlarged on the enclosed Figure 1. Use the section of the diagram which is marked "lower voltage" for a 208,220-volt circuit. The "higher voltage" section would be used for a 440-volt circuit. If the motor revolves in the wrong direction, change the positions of any two of the three wires which enter the top of the starter box.

Also enclosed is a descriptive bulletin for the No. 709 starter. Please note the section on "Overload Protection" on the last page. Further, we are sending along the "Allen-Bradley Condensed Price Catalogue, Second Edition, Motor Controls"; this may be of use to you.

Sincerely,



ABW:mlm

In Duplicate

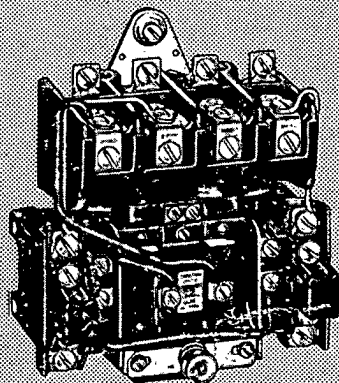
Enclosures



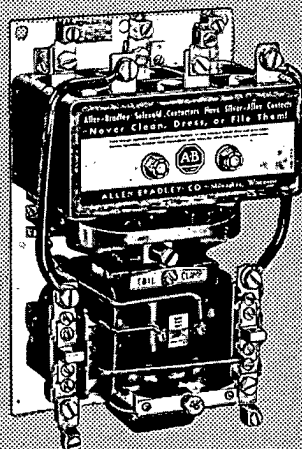
Full Voltage Starting Switches

December 15, 1958

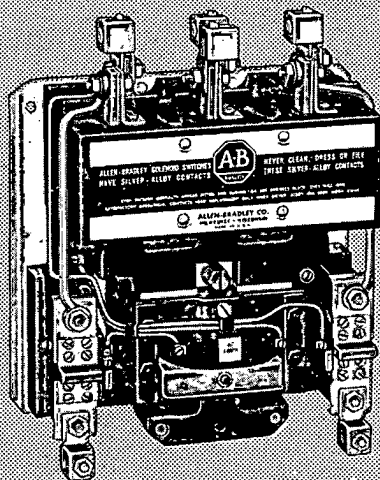
Descriptive
Bulletin **709**



Size 1, open type starter



Size 3, open type starter



Size 4, open type starter

Application • • •

Allen-Bradley Bulletin 709 starters are designed for full voltage starting of polyphase squirrel cage motors and for the primary control of slip-ring motors. They can also be used for self-starting, single phase motors, though for this purpose most customers prefer the Bulletin 709SP single phase starter, which is slightly lower in cost and fulfills all requirements for this service. This single phase starter is described on page 4.

The rapid and also consistent closing and opening of the Allen-Bradley Bulletin 709 starters make them particularly desirable for controlling the motions of high speed automatic machine tools. Because of their high reliability, they have been adopted as standard controls for installations where little or no attention is likely to be given to such equipment. Their extreme compactness makes them ideal for small machines, on special control panels, and wherever space is at a premium. Also, having a low drop-out voltage, they are especially suitable for refrigeration, air conditioning, and heating installations, and for production machines operating under poor voltage conditions.

Features • • •

Only one moving part—The Bulletin 709 full voltage starters consist of a plunger which carries the movable contact assembly, an arc hood in which the fixed contacts are mounted, a solenoid coil, and two thermal overload relays, all assembled and mounted on a heavy steel back plate. The only moving part is the plunger, which moves up and down through the solenoid coil. There are no pivots or pins or hinged members of any kind in this structure. Thus, the virtually frictionless operation assures long and trouble free life.

Double break contacts—The contacts of all Bulletin 709 starters are of a cadmium silver alloy. Oxides which may form on these contacts are good electrical conductors. Hence, the contacts never need cleaning, filing, or dressing, thereby saving valuable contact life and also saving the time and trouble otherwise necessary to keep contacts in an efficient operating condition. All contacts are of the double break type. Two movable contacts bridge two stationary contacts at each pole. This construction eliminates flexible jumpers, which can cause trouble where the contactor is used in frequent service.

Trouble free—The solenoid plunger is the only moving part. It moves up and down freely through frictionless, phosphor bronze guides. Therefore, such potential trouble-makers as bearings, pins, hinges, and pivots are avoided completely. In fact, the Allen-Bradley starter is the only one on the market entirely free of such encumbrances. All wiring is out in the open where it can be plainly seen, and where it is accessible. In industrial service, Bulletin 709 starters operate millions of times without failures of any kind.

High arc rupturing capacity—Each pole is enclosed in an individual arc chamber, which confines the arc and insures against flashover. This feature, added to the high

Supersedes Bulletin 709 Dated March, 1941

rupturing capacity of the double break contacts, explains why these starters of a given ampere rating will interrupt, without any difficulty, ten times its maximum horsepower rating up to the maximum voltage for which the starter is listed.

Holds in at low voltages—The high magnetic efficiency of the Allen-Bradley solenoid design results in a low drop-out and a low pick-up voltage. Because of the absence of friction producing parts, such as bearings, pivots, levers, and linkages, these starters open and close very quickly and are very consistent in their speed of operation.

Easy to wire—Various features of the Allen-Bradley Bulletin 709 starter design make installation easy. For example, in the enclosed starter, generous space is provided between the switch and the sides of the cabinet for wiring, and numerous knockouts permit conduit to be attached to any of the four sides or back. The white cabinet interior is a valuable feature where installation is made in a dark location. All terminals are easily accessible. No hidden wiring.

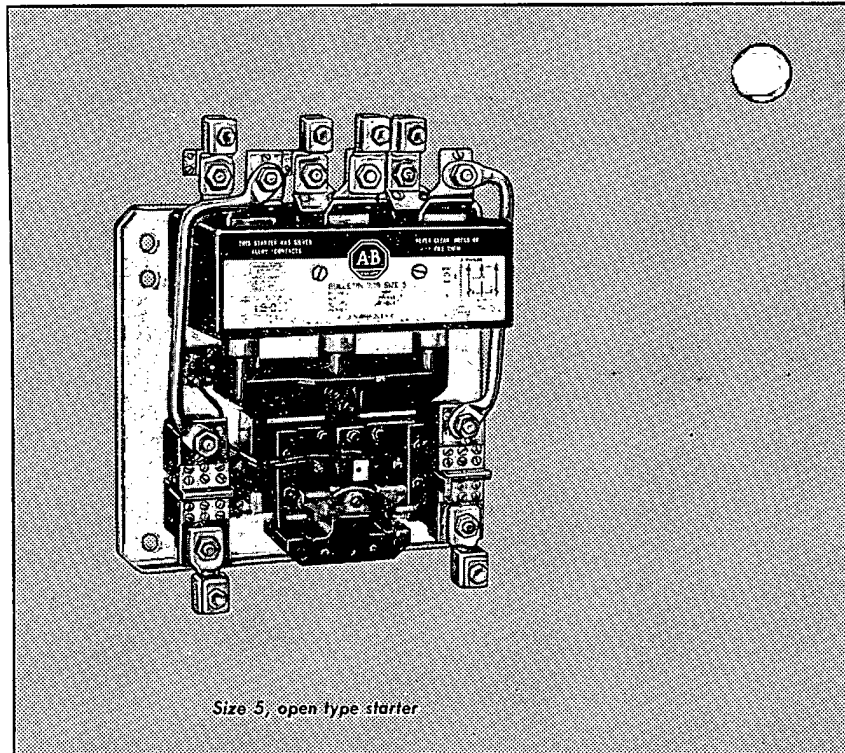
Construction • • •

Bulletin 709 starters can be furnished without an enclosure, or in a variety of cabinets for surface mounting. The lower ratings can also be had in several arrangements for flush mounting. The open type is popular for mounting in machine bases or on special control panels. Its compact design and freedom from flashover make it ideal for group mounting where space is at a premium. Both open and enclosed starters are available in Forms 1, 2, and 3, described on page 3.

For further details of construction of the contactor used in the Bulletin 709 starters, see Descriptive Bulletin 702.

Operation • • •

Bulletin 709 starters may be operated by push buttons, float switches, thermostats, pressure switches, snap switches, limit switches, or any other form of two or three wire pilot control device. When the contacts of the pilot control device close, the Bulletin 709 operating coil is energized, which pulls up the plunger and causes the contacts to close, thus connecting the motor to the line. Opening of the control circuit allows the solenoid plunger to drop down, which opens the contacts and disconnects the motor from the line.

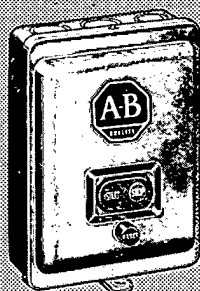


Size 5, open type starter

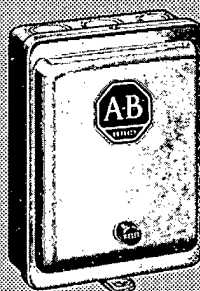
No-voltage protection—Upon failure of voltage, the Bulletin 709 full voltage starters will automatically open, disconnecting the load from the line. Upon return of voltage, the starters automatically close if a 2 wire pilot control is used. On the other hand, if the control is by means of a "Start-Stop" push button or other 3 wire control, the starters will not automatically reclose upon return of line voltage, making it necessary to operate a "Start" button, or its equivalent. The protection thus afforded by 3 wire control is known as no-voltage protection, while with 2 wire pilot control only no-voltage release is obtained.

Ratings • • •

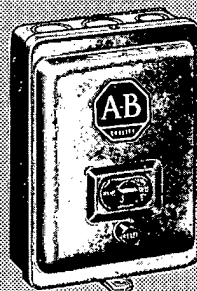
Bulletin 709 full voltage starters are made in nine sizes with horsepower ratings established by the National Electrical Manufacturers Association. Refer to Bulletin 709 Price Sheet for sizes and horsepower ratings.



Nema Type 1 Form 1
General Purpose
Enclosure



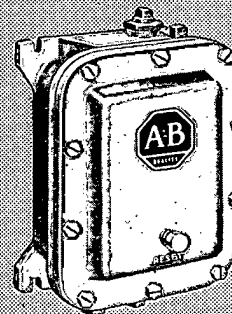
Nema Type 1 Form 2
General Purpose
Enclosure



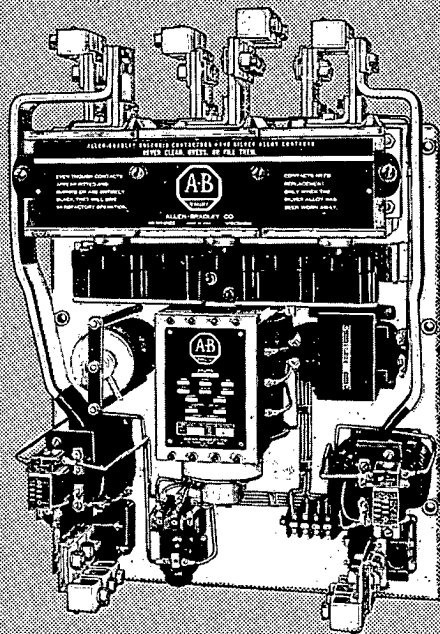
Nema Type 1 Form 3
General Purpose
Enclosure



Nema Type 4 Watertight
and Weatherproof
Enclosure



Nema Type 7 enclosure
for Class 1, Group D
Hazardous Locations



Size 7, open type starter

Three Forms of Starters • • •

The Bulletin 709 and 709SP starters in all sizes and most types of enclosures can be supplied in the "Form 1 construction" having a "Start-Stop" push button in the cover of the enclosure, in the "Form 2 construction" having a reset button only in the cover, or in the "Form 3 construction" having a "Hand-Off-Auto" selector switch in the cover. In the smaller sizes the push button or selector switch is integral with the starter, whereas in the larger sizes they are mounted, in the enclosure cover, separate from the starter. The various types of constructions are described in the following paragraphs.

Form 1 — In this construction a "Start-Stop" push button unit is mounted on the starter in the smaller sizes and in the cover of the enclosure in the larger sizes. In both cases the push button is operated from the front of the enclosure.

The Form 1 construction is principally of value for installations where the starter can be mounted near the operator, in which case wiring to the push button is eliminated and consequently installation cost is materially reduced.

Form 2 — This is the plain construction used for 3 wire remote push button control or 2 wire pilot control. The pilot device, whether it be a push button, thermostat, pressure switch, float switch, or other contact making device, is located separate from the starter itself.

Form 3 — This construction has a 3 way selector switch assembled as an integral part of the starter and operated from the front of the starter cabinet. The selector switch has three positions: "Hand", "Off", and "Automatic". In the "Automatic" position, the starter is under the control of the two wire pilot device. In the "Hand" position, the motor operates continuously until the selector switch is manually turned to "Off". The "Hand" position can also be used conveniently as a "tryout" switch. The Form 3 construction is a favorite for use with compressor and pump installations.

Enclosures • • •

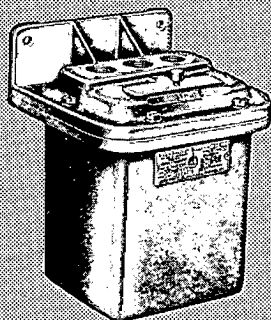
Types of enclosures—Seven types of enclosures are listed as standard with the Bulletin 709 starters. These enclosures, briefly described in the following paragraphs, are furnished as standard in the Form 2 construction, but in a great many instances can also be supplied either in the Form 1 or Form 3 arrangement.

Nema Type 1 — For general purpose applications. This is the so-called standard enclosure, made of gray enameled sheet steel with a white enameled interior. Its attractive appearance is an asset to any machine tool or any industrial installation.

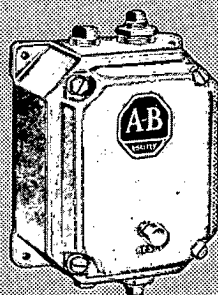
Nema Type 4 — Watertight and weatherproof. For use in laundries, creameries, tanneries, pump houses, all outdoor installations, etc., or wherever moisture conditions can cause trouble.

Nema Type 7 — Meets Underwriters' Laboratories' specifications for control for Class 1, Group D, hazardous gas locations, such as gasoline filling stations, dry cleaning plants, etc., where inflammable vapors may be present.

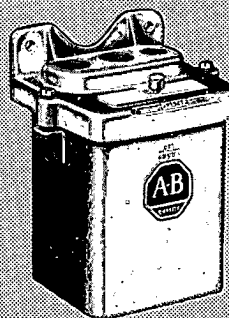
Nema Type 8 — Meets Underwriters' Laboratories' specifications for equipment for Class 1, Group D, both



Nema Type 8 Enclosure
for Class 1, Group D Hazardous
Locations Oil-Immersed



Nema Type 9 Enclosure
for Class 2, Group G
Hazardous Locations



Nema Type 11 Oil-Immersed
for Corrosive Gas Locations



Nema Type 12 Dust-tight
Industrial Use Enclosure

hazardous and corrosive gas locations. Complete starter is immersed in oil.

Nema Type 9 — Meets Underwriters' Laboratories' specifications for equipment installed in Class 2, Group G, hazardous dust locations, such as found in grain elevators and in flour mills.

Nema Type 11 — For corrosive gas locations. Contacts and starter mechanism are immersed in oil for protection against gas. This enclosure does not satisfy requirements for installations in hazardous, corrosive gas locations.

Nema Type 12 — This enclosure, made of sheet steel, is for use in industries where an enclosure is required to provide protection against the entrance of metal chips, dirt, lint, coolant oils, etc. It is also suitable for Nema Type 5 dust-tight applications. Conduit knockouts are not provided.

Flush Mounting • • •

The Bulletin 709 starters, Sizes 0 to 3, are available in three types of flush mounting constructions suitable for mounting into machine cavities, control panels or plaster walls.

Three types of flush constructions are described below.

Nema Type 1B1 — This construction is designed for cavity mounting in a machine base or for panel mounting. The starter is mounted on a bracket. A flush plate is provided for covering the opening but no enclosure is provided for the starter.

Nema Type 1B2 — This construction is similar to the Nema Type 1B1 except that an enclosure is provided for the starter.

Nema Type 1B3 — This construction is suitable for flush mounting in plaster or tile walls. The starter can be easily and quickly aligned in the enclosure after the enclosure has been placed in the wall.

Overload Protection • • •

In all listed sizes of the Bulletin 709 full voltage starters, two thermal overload relays are employed to protect the motor from damage due to sustained overloads. A third overload relay can be added at an additional charge, as listed in the price sheets. The addition of the third overload relay, especially in the smaller size starters, necessitates the use of a cabinet larger than the standard cabinet.

The Bulletin 709 starters, which include Sizes 0, 1, 2, 3, 4, and 5 are equipped as standard with two Bulletin 815 resisto-therm overload relays. After tripping, these relays are reset without opening the cabinet, by pushing a "Reset" button, which is located in the cover of the enclosure. Bulletin 820 inducto-therm relays or Bulletin 810 magnetic overload relays can be substituted for the Bulletin 815 relays in Size 2, 3, 4 and 5 starters, but the construction then becomes special. The Bulletin 815 resisto-therm overload relay operates on the soldered ratchet principle. It has interchangeable heater elements which cover a wide range of ratings. *N-39 installed*

Bulletin 709 starters, Sizes 0 to 5, can be supplied with Bulletin 816 automatic overload reset relays at no additional charge. Bulletin 816 overload relays can be added without changing the size of the starter enclosure.

The Bulletin 709 starters, Sizes 6, 7 and 8, use two Bulletin 820 adjustable inducto-therm overload relays as standard equipment. These relays, upon tripping, are also reset without opening the enclosure. The Bulletin 820 inducto-therm overload relay is also of the soldered ratchet type, adjustable over a wide range. There are no heater elements to change. Bulletin 810 magnetic type overload relays can be substituted for the Bulletin 820 relays at a small additional charge listed in the Price Sheet.

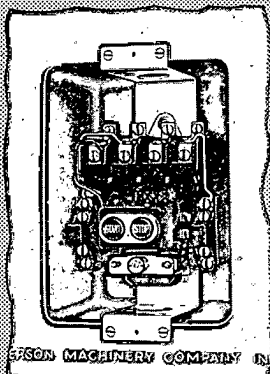
Bulletin 709SP Single Phase Starters

Bulletin 709SP switches are designed for use with self-starting single phase motors. They should only be used with motors that can be started at the full line voltage without damage.

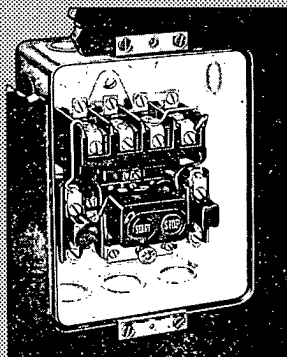
Construction of the 709SP is similar to the Bulletin 709 except that only one overload relay is used.

The operating coil of the Bulletin 709SP has two separate windings and is equipped with one terminal for 110 volt and the other for 220 volt operation. When changing the starter from 110 volt to 220 volts, the overload relay heater element must be changed unless the motor current remains the same.

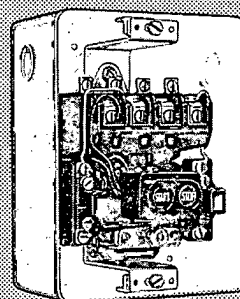
Reliable and accurate overload protection is provided by a Bulletin 815 resisto-therm relay. This relay is of the soldered ratchet type which is the simplest, and most trouble-free thermal relay for reliable motor protection.



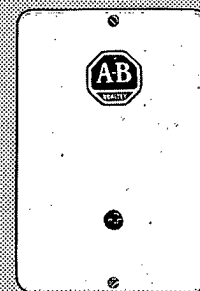
Nema Type 1B1 starter



Nema Type 1B2 starter



Nema Type 1B3 starter



Cover Plate as used with
Flush Mounting Starters

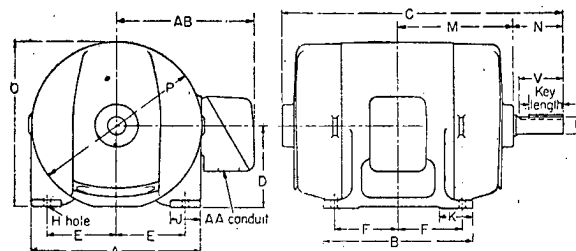
Dripproof and Totally Enclosed Fan-cooled •

TRI 55 CLAD

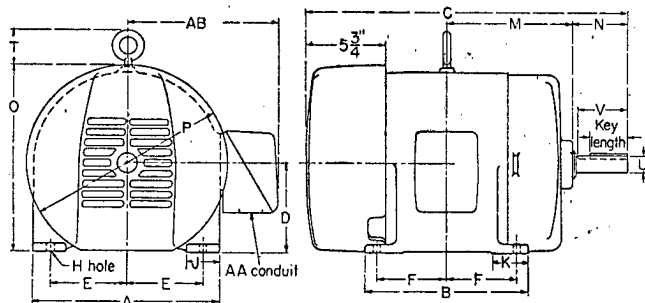
May 9, 1960

Type K, Normal-starting-torque
Type KG, High-starting-torque

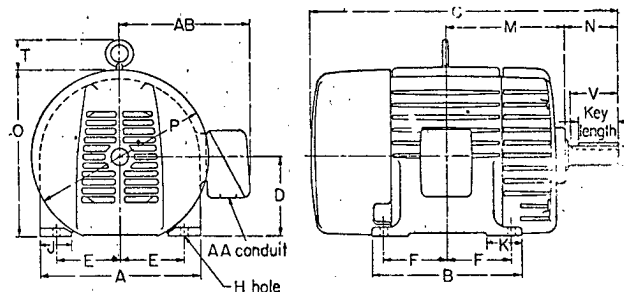
Type KR, High-slip

DIMENSIONS (For estimating only. For complete dimensions and tolerances for dripproof motors see GEM-1802, for standard TEFC see GEM-1803, for explosion-proof TEFC see GEM-1875)

Dripproof frames



Totally enclosed fan-cooled frames 154U and 256U



Totally enclosed fan-cooled frames 284U and 326U

Frame Size	Approx Net Wt in Lb			Approximate Dimensions in Inches												
	DP	TEFC		Keyway		Key Length	A	B	C		D	E	F	H	J	K
		Std	Exp-Pf	Width	Depth				DP	TEFC						
254U	157	190	240	5/16	5/32	2 3/4	12 1/2	10	20 3/16	21 1/16	6 1/4	5	4 1/2	1 7/32	2 3/4	2 11/16
256U	190	230	280	5/16	5/32	2 3/4	12 1/2	11 1/4	22 1/16	23 3/16	6 1/4	5	5	1 7/32	2 3/4	2 11/16
284U	255	320	395	3/8	3/16	3 3/4	13 3/8	11 3/4	23 11/16	24 13/16	7	5 1/2	4 3/4	1 7/32	2 3/4	3
286U	290	332	405	3/8	3/16	3 3/4	13 3/8	12 3/8	25 3/16	26 3/16	7	5 1/2	5 1/2	1 7/32	2 3/4	3
324U	325	420	520	1/2	1/4	4 1/4	15 5/8	12 3/4	26 7/16	27 1/16	8	6 1/4	5 1/4	2 1/32	3 3/8	3 3/8
326S	360	525	625	3/8	3/16	1 7/8	15 5/8	14 1/4	25 3/16	26 11/16	8	6 1/4	6	2 1/32	3 3/8	3 3/8
326U	360	525	625	1/2	1/4	4 1/4	15 5/8	14 1/4	27 3/16	29 1/16	8	6 1/4	6	2 1/32	3 3/8	3 3/8

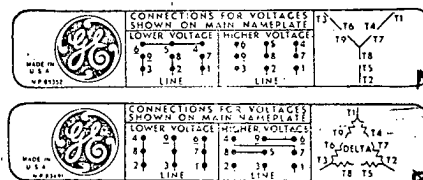
Frame Size	Approximate Dimensions in Inches														
	M		N		O		P		T	U	V	AA	AB		
	DP	TEFC	DP	TEFC	DP	TEFC	DP	TEFC					DP	Std	Exp-Pf
254U	8 3/16	8 3/32	3 15/16	4 1/32	12 1/16	13 1/16	12 3/8	13 3/8	2 3/16	1 3/8	3 1/2	★1 1/4	10 1/16	10 1/4	10 1/2
256U	9 1/16	8 31/32	3 15/16	4 1/32	12 1/16	13 1/16	12 3/8	13 3/8	2 3/16	1 3/8	3 1/2	★1 1/4	10 1/16	10 1/4	10 1/2
284U	9 1/16	9 7/32	5 1/16	5 3/32	14	14 3/8	14	15 1/4	2 1/2	1 3/8	4 3/8	★1 1/2	10 13/16	11 1/16	11 1/16
286U	10 1/16	★9 31/32	5 1/16	5 3/32	14	14 3/8	14	★15 1/4	★2 1/2	1 3/8	4 3/8	★1 1/2	10 13/16	11 1/16	11 1/16
324U	10 5/16	10 7/32	5 13/16	5 29/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	5 3/8	2	12 13/16	13 1/16	13 1/16
326S	11 1/16	10 21/32	3 7/8	3 17/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	3	2	12 13/16	13 1/16	13 1/16
326U	11 1/16	10 21/32	5 13/16	5 29/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	5 3/8	2	12 13/16	13 1/16	13 1/16

MODIFICATIONS

Electrical—Special frequencies, insulation for various ambient temperatures, special windings for off-standard voltages, high temperatures, and special duty cycles.

Mechanical—Off-standard assemblies for: special mounting positions (e.g., ceiling, side-wall, vertical, etc.); motor-mounted magnetic-disk brakes. Precision balance. Also end shields for end mounting and partial motors for built-in applications. Shafts: standard or special material, and special dimensions.

CONNECTION DIAGRAMS



Typical connection diagrams for three-phase, dual-voltage, squirrel-cage motors

CONTROL

Full-voltage, automatic, CR7006 or CR7008

Reduced-voltage, manual, CR1034; magnetic, CR7056, CR7051

ORDERING DIRECTIONS

Order a Tri/Clad '55' motor. Specify type, frame size, horsepower rating, speed (rpm), voltage, phase, frequency, enclosure—dripproof or totally enclosed fan-cooled (standard, explosion-proof, or dust-explosion-proof), mounting (dripproof), special features, and control (if desired). Also quantity, delivery date, and reference to quotation.

★Dimensions changed since Nov. 5, 1956 issue.

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y.

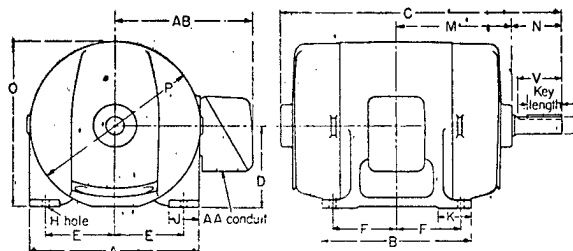
Dripproof and Totally Enclosed Fan-cooled •

TRI 55 CLAD

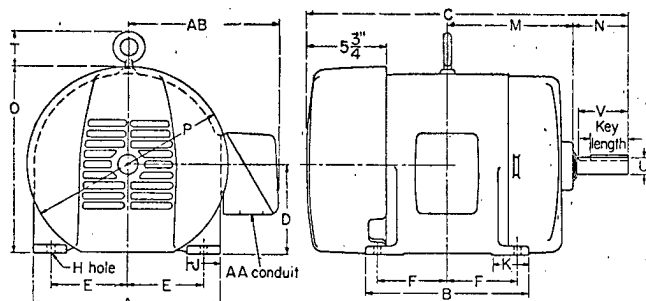
Type K, Normal-starting-torque
Type KG, High-starting-torque

Type KR, High-slip

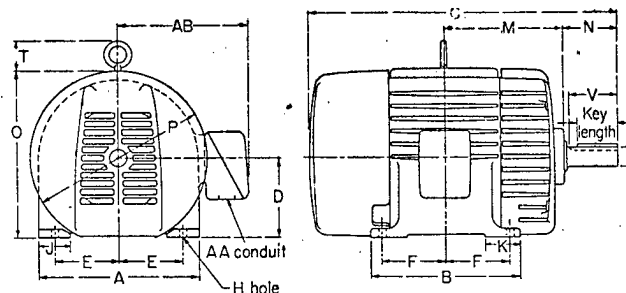
May 9, 1960

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256U	190	230	280	5/16	5/32	2 3/4	12 1/2	11 3/4	22 1/16	23 3/16	6 1/4	5	5	17/32	2 3/4	2 1/4
284U	255	320	395	3/8	3/16	3 3/4	13 3/8	11 3/4	23 1/16	24 13/16	7	5 1/2	4 3/4	17/32	2 3/4	3
286U	290	332	405	3/8	3/16	3 3/4	13 3/8	12 3/8	25 3/16	26 3/16	7	5 1/2	5 1/2	17/32	2 3/4	3
324U	325	420	520	1/2	1/4	4 1/4	15 3/8	12 3/4	26 7/16	27 1/16	8	6 1/4	5 1/4	2 1/32	3 1/4	3 3/4
326S	360	525	625	3/4	3/16	1 7/8	15 3/8	14 1/4	25 3/16	26 11/16	8	6 1/4	6	2 1/32	3 1/4	3 3/4
326U	360	525	625	1/2	1/4	4 1/4	15 3/8	14 1/4	27 3/16	29 1/16	8	6 1/4	6	2 1/32	3 1/4	3 3/4

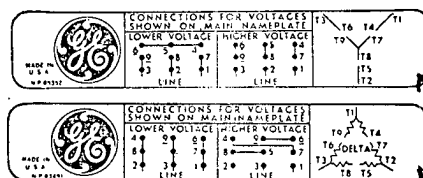
Frame Size	Approximate Dimensions in Inches													
	M		N		O		P		T	U	V	AA	AB	
	DP	TEFC	DP	TEFC	DP	TEFC	DP	TEFC					DP	TEFC
254U	8 3/16	8 3/32	3 15/16	4 1/32	12 1/16	13 1/16	12 3/8	13 3/8	2 3/16	1 3/8	3 1/2	★1 1/4	10 1/16	10 1/4
256U	9 1/16	8 3/32	3 15/16	4 1/32	12 1/16	13 1/16	12 3/8	13 3/8	2 3/16	1 3/8	3 1/2	★1 1/4	10 1/16	10 1/4
284U	9 3/16	9 7/32	5 1/16	5 3/32	14	14 3/8	14	15 1/4	2 1/2	1 3/8	4 3/8	★1 1/2	10 1/16	11 1/16
286U	10 1/16	★2 3/32	5 1/16	5 3/32	14	14 3/8	14	★15 1/4	★2 1/2	1 3/8	4 3/8	★1 1/2	10 1/16	11 1/16
324U	10 3/16	10 7/32	5 1/16	5 29/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	5 3/8	2	12 13/16	13 1/16
326S	11 1/16	10 7/32	3 7/16	3 17/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	3	2	12 13/16	13 1/16
326U	11 1/16	10 7/32	5 1/16	5 29/32	16	16 11/16	16	17 3/8	2 1/2	1 3/8	5 3/8	2	12 13/16	13 1/16

MODIFICATIONS

Electrical—Special frequencies, insulation for various ambient temperatures, special windings for off-standard voltages, high temperatures, and special duty cycles.

Mechanical—Off-standard assemblies for: special mounting positions (e.g., ceiling, side-wall, vertical, etc.); motor-mounted magnetic-disk brakes. Precision balance. Also end shields for end mounting and partial motors for built-in applications. Shafts: standard or special material, and special dimensions.

CONNECTION DIAGRAMS



Typical connection diagrams for three-phase, dual-voltage, squirrel-cage motors

CONTROL

Full-voltage, automatic, CR7006 or CR-7008

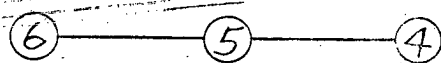
Reduced-voltage, manual, CR1034; magnetic, CR7056, CR7051

ORDERING DIRECTIONS

Order a Tri/Clad '55' motor. Specify type, frame size, horsepower rating, speed (rpm), voltage, phase, frequency, enclosure—dripproof or totally enclosed fan-cooled (standard, explosion-proof, or dust-explosion-proof), mounting (dripproof), special features, and control (if desired). Also quantity, delivery date, and reference to quotation.

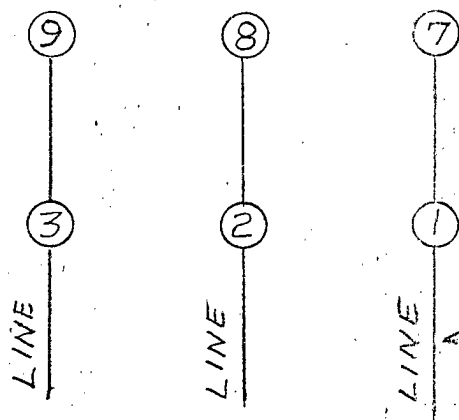
★Dimensions changed since Nov. 5, 1956 issue.

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y.



FASTEN 4, 5, 6 TOGETHER
WITH MACHINE SCREW
AND TAPE ADEQUATELY
FOR ELECTRICAL INSULATION

Y MOTOR

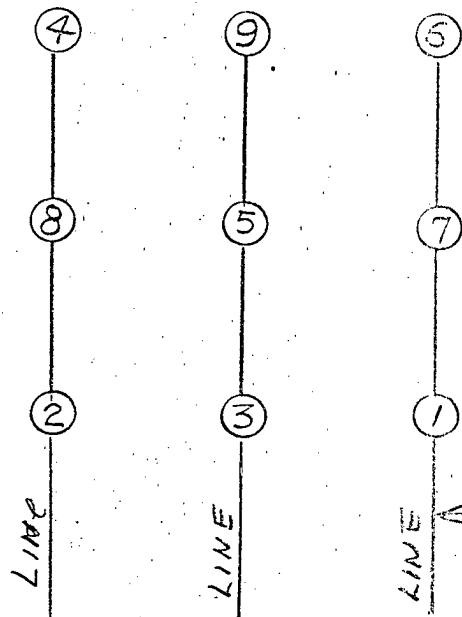


FASTEN 1, 7 AND ONE
LINE WIRE TERMINAL
TOGETHER AND TAPE

SAME FOR 2, 8 AND ONE LINE
SAME FOR 3, 9 AND ONE LINE

← PUT TERMINAL ON EACH
LINE WIRE FIRST

Δ MOTOR



FASTEN 1, 7, 6 AND ONE LINE
TERMINAL TOGETHER
WITH MACHINE SCREW
AND TAPE

SAME FOR 3, 5, 9 AND ONE LINE

SAME FOR 2, 8, 4 AND ONE LINE

← PUT TERMINAL ON EACH
LINE WIRE FIRST

FIGURE 1. CONNECTION DIAGRAMS